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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/676,058

10/01/2003

Kay Leong Lim

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7590

10/16/2006

George O. Saile
28 Davis Avenue
Poughkeepsie, NY 12603

EXAMINER

MCNELIS, KATHLEEN A

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,058

Applicant(s)

LIM ET AL.

Examiner

Kathleen A. McNelis

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/17/2006</u> | 6) <input type="checkbox"/> Other: _____ |

Claims Status

Claims 15-24 remain for examination wherein claims 15, 16, 19 and 22 are amended.

Acknowledgement of RCE

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.115, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/9/2006 has been entered.

Status of Previous Rejections

The previous rejection of claims 15-24 under 35 U.S.C. 102(b) as being anticipated by Wentfort, Jr. et al. is maintained.

The previous rejection of claims 15-24 under 35 U.S.C. 102(b) as being anticipated by Engelfriet et al. is maintained.

The previous rejection of claims 15-17 under the judicially created doctrine of obviousness-type double patenting is maintained.

The previous rejection of claims 18-24 under the judicially created doctrine of obviousness-type double patenting is withdrawn in view of applicants' arguments and amendments to the claims.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

Art Unit: 1742

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 15-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

While examiner finds support for sintering, examiner does not find support for the process of sintering making it impossible to separate without damage thereto. In embodiment 2, it appears that two bodies are sintered together but are separated without damage.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 15-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Wentfort, Jr. et al.

Wentforth Jr. et al. is applied as set forth in the 3/6/2006 office action. Further, regarding the additional limitation that "said first and second parts being impossible to separate without damage thereto", in the absence of any further definition of "damage" examiner maintains that the first and second parts cannot be separated without damage thereto.

Claims 15-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Engelfriet et al.

Engelfriet et al. is applied as set forth in the 3/6/2006 office action. Further, regarding the additional limitation that "said first and second parts being impossible to separate without damage thereto", in the absence of any further definition of "damage" examiner maintains that the first and second parts cannot be separated without damage thereto.

Claims 15- 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese patent JP 62-30804 (JP '804)¹ or Hahn (U.S. Pat. No. 3,605,123) or Wheeler et al. (U.S. Pat. No. 3,852,045).

JP '804 discloses a multilayer sintering method for a cement material powder and iron metal powder using a powder hot-press (claim 1) where a cement material is used for high hardness and wear resistance (p. 3, prior art and p. 5 lines 4-7) and an iron group metal powder is used for high strength (p. 5 lines 8-9). The parts are joined by hot pressing (pp. 6-7 and Figs 1-3), which is a molding process. After hot pressing, it will be impossible to separate the parts without damage thereto. The cement material provides high hardness and wear resistance. The iron material provides high toughness.

Alternatively, while JP '804 does not recite that it will be impossible to separate the parts without damage thereto, one of ordinary skill in the art would expect that a composite which has been joined by pressure and sintering with diffusion of powders (pp. 6-7) would be impossible to separate the parts without damage thereto. Further, while JP '804 does not recite that the iron material has high toughness, one of ordinary skill in the art would expect the toughness of the iron to be higher than that of the cement material.

Hahn discloses a bone implant having a dense cast or wrought base portion of high strength metal and a porous metal overlaying and bonded to the base portion (abstract). Since casting involves pouring molten metal into a mold, the shape can be formed by a molding process. The porous layer provides controlled porosity and the base metal high strength.

¹ Based on September 2006 translation to English

Art Unit: 1742

Alternatively, while Hahn does not recite that the shape may be formed by a molding process, one of ordinary skill in the art would expect that the shape (Fig.1) could be formed by molding in view of the disclosure that it is cast, and casting involves pouring into a mold for solidification. While Hahn does not recite that it would be impossible to separate the parts without damage thereto, in the absence of any further definition of “damage” examiner maintains that the first and second parts cannot be separated without damage thereto.

Wheeler et al. discloses a porous metal material of interconnected voids (abstract), with internal cavity (Figs. 10 and 11), joined to a solid metal core, which provides structural reinforcement (col. 13 line 45- col. 14 line 51). The solid core therefore provides strength and/or toughness.

Alternatively, while Wheeler et al. does not recite that the solid metal core provides strength and/or toughness, one of ordinary skill in the art would expect this to be the case in view of the disclosure that it provides structural reinforcement. While Wheeler does not recite that it would be impossible to separate the parts without damage thereto, in the absence of any further definition of “damage” examiner maintains that the first and second parts cannot be separated without damage thereto.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

Art Unit: 1742

Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 15-17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 8, 11-13, 19 and 22 of U.S. Patent No.6,461,563.

Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 and 11 disclose a continuous body having a first part with a first set of physical properties and a second part with a second set of physical properties. Claims 2, 3, 12 and 13 disclose that the properties are selected from a group including CTE, melting point, conductivity, young's modulus and hardness. '563 discloses sintering the two mixtures (claims 8, 19, 22) therefore in the absence of any further definition of "damage" examiner maintains that the first and second parts cannot be separated without damage thereto.

Response to Arguments

Applicant's arguments filed 8/9/2006 have been fully considered but they are not persuasive.

Applicant has amended the claims to include the limitation "...said first and second parts being impossible to separate without damage thereto...", and contends that this limitation overcomes prior art rejections where the two parts can be separated without damage. Further,

Art Unit: 1742

applicant argues that it is an inherent characteristic of sintered bodies that they cannot be separated without damage.

Examiner's response is that "damage" is not defined; therefore it is possible that any microscopic abrasion constitutes damage, or that sawing something cleanly into two parts does not. One could argue that no two materials could be separated without some damage, or alternatively that any two materials can be separated without damage, depending on what is meant by "damage." Further, examiner does not find a definition of damage in the specification. Applicant's argument that this is an inherent characteristic of a body formed through sintering does not take the place of evidence, and is apparently contradictory to embodiment 2 of applicants' invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen A. McNelis whose telephone number is 571 272 3554. The examiner can normally be reached on M-F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

Art Unit: 1742

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KAM
10/5/2006



ROY KING 
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700